

REMARKS/ARGUMENTS

This is a Response to the Office Action mailed October 10, 2006, in which a three (3) month Shortened Statutory Period for Response was set and which expired January 10, 2007. Enclosed is our check to cover the fee for a two-month extension of time, to March 10, 2007. Thirty-one (31) claims, including two (2) independent claims, were paid for in the application. Claims 1-16, 28, and 30 are currently canceled. Claims 17-25 are currently amended. No new matter has been added to the application. No fee for additional claims is due by way of this Amendment. The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090. Upon entry of the amendments herewith, claims 17-27, 29 and 31 remain pending.

1. Rejections Under 35 U.S.C. § 112, Second Paragraph

In the Office Action at paragraphs 3 and 4, claims 1-31 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to point out and distinctly claim the subject matter which the applicants regard as their invention.

Specifically “because the specification, while being enabling for the plural recording layers containing compounds of the metal and the element X together with elemental Mg, Al or Ti and where the element X being present as part of a compound and limited to C,O,N, and S, does not reasonably provide ennoblement for the MX not forming a compound initially, the reaction taking place in the absence of elemental Ti, Al or Mg or X being present in elemental form or being other than O, S, C and N. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.” Also, the Office Action alleges that “the claims should indicate that recording layer containing the element M is a layer in contact with a layer containing a compound including the element X, which is one of S,O,C and N. (see figure 3).” Finally, the Office Action alleges that “the claims currently imply that there can be to [sic] different layers containing M and X and that they do not form a compound, but are separate.

[0193] and other examples. The claims also fail to identify that element X is part of a compound with the metal X.”

Applicants respectfully traverse the rejection of claims 1-16, 28, and 30 under 35 U.S.C. § 112, second paragraph. However, to advance prosecution of the present application, claims 1-16, 28, and 30 are canceled without prejudice, waiver, or disclaimer, and therefore, the rejection to these claims are rendered moot. Applicants take this action merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application, and not in response to the traversed rejection of the claims 1-16, 28, and 30 under 35 U.S.C. § 112, second paragraph, with which the Applicants disagree with. Applicants reserve the right to pursue the subject matter of these canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate any of the canceled subject matter to the public.

Applicants respectfully traverse the rejection of claims 17-27, 29, and 31 under 35 U.S.C. § 112, second paragraph, for at least the following reasons. The recited recording layer is a recording layer that is “other than a recording layer farthest from the light transmission layer.” The Examiner is respectfully referred to at least Figures 2 and 3 which indicate that the recording layer farthest from the light transmission layer 15 is the first recording layer 20, which includes the first recording film 23a and the second recording film 23b such that elements of the films 23a and 23b mix upon irradiation. This first recording layer 20 is not the recording layer defined by at least claim 17.

Rather, the recording layers defined by claim 17 may be one of the second recording layer 30 or the third recording layer 40 (or one of another of a plurality of recording layers other than the above-described recording layer farthest from the light transmission layer). Recording layer 30 and/or third recording layer 40 are of a single layer type recording medium (see for example, at least paragraphs 0109 and 0111 of the published application, U.S. publication 2004/0152016). More specifically, the recited features of the recording layer defined by at least claim 17 is fully disclosed at paragraphs 0508-0509 of the U.S. publication 2004/0152016, corresponding to the present application. More specifically, claim 17 does not include the features “MX” objected to at paragraphs 3 and 4 of the Office Action. Accordingly,

Applicants respectfully request reconsideration and withdrawal of the rejection of claim 17 under 35 U.S.C. § 112, second paragraph.

Since the rejection of claim 17 under 35 U.S.C. § 112, second paragraph, has been overcome for at least the above-described reasons, claims 18-27, 29, and 31 also overcome the rejection 31 under 35 U.S.C. § 112, second paragraph. Accordingly, Applicants respectfully request withdrawal of the rejection claims 18-27, 29, and 31 under 35 U.S.C. § 112, second paragraph.

2. Rejections Under 35 U.S.C. § 102(b), 35 U.S.C. § 102(e), and 35 U.S.C. § 103(a)

In the Office Action, at paragraphs 7, 8, 9, and 10, claims 1-3 and 6-8 stand rejected under 35 U.S.C. § 102(b), 35 U.S.C. § 102(e), and 35 U.S.C. § 103(a) as allegedly anticipated by, or obvious over, *Fukano et al.* (U.S. Patent 6,210,860), hereinafter *Fukano*; *Erdogan et al.* (U.S. Patent Publication No. 2004/0027652), hereinafter *Erdogan*; and *JP 54-133134*, hereinafter *JP '134*.

Applicants respectfully traverse the above-rejections of claims 1-3 and 6-8. However, to advance prosecution of the present application, claims 1-3 and 6-8 are canceled without prejudice, waiver, or disclaimer, and therefore, the rejection to these claims are rendered moot. Applicants take this action merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application, and not in response to the traversed rejection of the claims 1-3 and 6-8, with which the Applicants disagree with. Applicants reserve the right to pursue the subject matter of these canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate any of the canceled subject matter to the public.

3. Rejections Under 35 U.S.C. § 103(a)

In the Office Action, at paragraphs 11 and 12, claims 1-3, 6-8, 11-13, 16-22, and 30-31 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Sigyo et al.* (U.S. Patent 4,609,611), hereinafter *Sigyo*, in view of *Nakane et al.* (U.S. Patent 4,587,533), hereinafter *Nakane*, and *JP '134*, and/or further in view of *Shuy et al.* (U.S. Patent Publication No. 2001/0021160), hereinafter *Shuy*. It is well-established at law that, for a proper rejection of a claim

under 35 U.S.C. § 103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements and/or features of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

a. Claims 1-3, 6-8, 11-13, 16, and 30

Applicants respectfully traverse the rejection of claims 1-3, 6-8, 11-13, 16, and 30. However, to advance prosecution of the present application, claims 1-3, 6-8, 11-13, 16, and 30 are canceled without prejudice, waiver, or disclaimer, and therefore, the rejection to these claims are rendered moot. Applicants take this action merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application, and not in response to the traversed rejection of the claims 1-3, 6-8, 11-13, 16, and 30, with which the Applicants disagree with. Applicants reserve the right to pursue the subject matter of these canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate any of the canceled subject matter to the public.

b. Independent Claim 17

Independent claim 17, as amended, is allowable for at least the reason that the proposed combination of *Sigyo, Nakane, JP '134*, and/or *Shuy* does not disclose, teach, or suggest at least the feature of an “optical recording medium comprising a substrate, a light transmission layer, and a plurality of recording layers laminated via at least intermediate layers and disposed between the light transmission layer and the substrate, the recording layers constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer, *at least one of the recording layers other than a recording layer farthest from the light transmission layer* among the plurality of recording layers...” as recited in claim 17 (emphasis added).

*Sigyo* is directed to a recording medium having a single recording layer. However *Sigyo* is limited to referring to “a recording medium having a structure as disclosed, for example, in U.S. Pat. No. 4,074,282, specifically one prepared by fixing two substrates each having a

recording layer, with the recording layers facing each other, and a seal interposed between them to provide an air gap between the recording layers (so-called air sandwich type). Various advantages, such as recordability on both surfaces, can be imparted to such a recording medium" (column 6, lines 30-38). Accordingly, *Sigyo* fails to disclose, teach, or suggest projecting a laser beam onto a plurality of recording layers because either a single recording layer is disclosed, or alternatively, because two recording layers separated by a seal (per U.S. Pat. No. 4,074,282) are disclosed. That is, a laser beam is not projected through both recording layers. That is, there are no plurality of recording layers in *Sigyo* with one of the recording layers being other than the recording layer farthest from the light transmission layer.

*Nakane* is directed to a back-to-back type recording medium. As illustrated "in FIG. 1, the dual face type information recording medium is illustrated generally by reference numeral 1. Medium 1 comprises a pair of recording medium elements 2 each having an identical structure as shown in FIG. 2, the two elements being bonded together by means of adhesives 4 at their interface in inverted relation with respect to their substrates 3" (column 4, lines 25-31). Accordingly, there are no plurality of recording layers in *Nakane* with one of the recording layers being other than the recording layer farthest from the light transmission layer. That is, a laser beam is not projected through both recording layers.

Based upon the English language Abstract of *JP '134*, there are no plurality of recording layers with one of the recording layers being other than the recording layer farthest from the light transmission layer.

*Shuy* only discloses that "the optical reflecting contrast produced by the presence of the semi-transparent reflective area 35 leads to signal modulation within the full visible-light range from at least one of the following effects: (1) As a result of the alloy/compound effect, the semi-transparent reflective area 35 changes the optical constants (n & k) in the area thus altering the overall reflectivity; (2) The presence of the semi-transparent reflective area 35 reduces the effective thickness of the transparent layer 30 and alters the respective optical-path lengths thereby shifting constructive or destructive interference; and (3) Due to the alloy/compound effect, the semi-transparent reflective area 35 changes the polarization angle thus altering the intensity read by the polarization optics" (paragraph 0028). There are no plurality of recording

layers in *Shuy* with one of the recording layers being other than the recording layer farthest from the light transmission layer.

However, a proper analysis of the art should consider the proposed art in combination, not separately. Here, if *Sigyo* is modified by a recording medium layer of either *Nakane, JP '134*, and/or *Shuy*, there still is no plurality of recording layers with one of the recording layers being other than the recording layer farthest from the light transmission layer. That is, the proposed combination of *Sigyo* in view of *Nakane* and *JP '134*, or the proposed combination of *Sigyo* in view of *Nakane* and *JP '134* further in view of *Shuy*, do not disclose, teach, or suggest at least the feature of an “optical recording medium comprising a substrate, a light transmission layer, and a plurality of recording layers laminated via at least intermediate layers and disposed between the light transmission layer and the substrate, the recording layers constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer, *at least one of the recording layers other than a recording layer farthest from the light transmission layer* among the plurality of recording layers ...” as recited in claim 17 (emphasis added) since *Nakane, JP '134*, and/or *Shuy* do not cure the above-described deficiency of *Sigyo*. Therefore, a *prima facie* case establishing an obviousness rejection by the proposed combinations of *Sigyo* in view of *Nakane, JP '134*, and/or *Shuy* has not been made. Thus, claim 17 is not obvious under proposed combination of *Sigyo* in view of *Nakane, JP '134*, and/or *Shuy*, and the rejection should be withdrawn.

c. Dependent Claims 18-22 and 31

Because independent claim 17 is allowable over the cited art of record, dependent claims 18-22 and 31 (which depend from independent claim 17) are allowable as a matter of law for at least the reason that the dependent claims 18-22 and 31 contain all features/elements of independent claim 17. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, the rejection to these claims should be withdrawn.

4. Rejections Under 35 U.S.C. § 103(a)

In the Office Action, at paragraph 13, claims 1-3, 6-8, 11-13, 16-22, and 30-31 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Akahira et al.* (U.S. Patent 5,459,018), hereinafter *Akahira*, in view of *Nakane*. It is well-established at law that, for a proper rejection of a claim under 35 U.S.C. § 103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements and/or features of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

a. Claims 1-3, 6-8, 11-13, 16, and 30

Applicants respectfully traverse the rejection of claims 1-3, 6-8, 11-13, 16, and 30. However, to advance prosecution of the present application, claims 1-3, 6-8, 11-13, 16, and 30 are canceled without prejudice, waiver, or disclaimer, and therefore, the rejection to these claims are rendered moot. Applicants take this action merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application, and not in response to the traversed rejection of the claims 1-3, 6-8, 11-13, 16, and 30, with which the Applicants disagree with. Applicants reserve the right to pursue the subject matter of these canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate any of the canceled subject matter to the public.

b. Independent Claim 17

Independent claim 17, as amended, is allowable for at least the reason that the proposed combination of *Akahira* in view of *Nakane* does not disclose, teach, or suggest at least the feature of an “optical recording medium comprising a substrate, a light transmission layer, and a plurality of recording layers laminated via at least intermediate layers and disposed between the light transmission layer and the substrate, the recording layers constituted so that a *laser beam is projected onto the plurality of recording layers via the light transmission layer, at*

*least one of the recording layers other than a recording layer farthest from the light transmission layer among the plurality of recording layers ...” as recited in claim 17 (emphasis added).*

*Akahira* is directed to a recording medium having a single recording layer. *Akahira* discloses that “an optical recording film 2 is deposited on the substrate 1. The optical recording film consists of a mixture of a metal 3 and an oxide 4” (column 5, lines 51-53, see also Figures 1 and 2). *Akahira* later discloses “an optical recording film having a multi-layered structure as shown in FIG. 2 or FIG. 3 can be obtained by using sequentially a metal source and an oxide source separated from each other during the vacuum deposition or the sputtering” (column 8, lines 23-27). However, the disclosed multilayers apparently only form a single recording layer, and therefore, cannot be properly construed to be a plurality of recording layers laminated via at least intermediate layers. That is, there are no plurality of *separate* recording layers in *Akahira* laminated via at least intermediate layers and with one of the recording layers being other than the recording layer farthest from the light transmission layer.

*Nakane* is directed to a back-to-back type recording medium. As illustrated “in FIG. 1, the dual face type information recording medium is illustrated generally by reference numeral 1. Medium 1 comprises a pair of recording medium elements 2 each having an identical structure as shown in FIG. 2, the two elements being bonded together by means of adhesives 4 at their interface in inverted relation with respect to their substrates 3” (column 4, lines 25-31). Accordingly, there are no plurality of recording layers in *Nakane* with one of the recording layers being other than the recording layer farthest from the light transmission layer. That is, a laser beam is not projected through both recording layers.

However, a proper analysis of the art should consider the proposed art in combination, not separately. Here, if *Akahira* is modified by a recording medium layer of *Nakane*, there still is no plurality of recording layers with one of the recording layers being other than the recording layer farthest from the light transmission layer. That is, the proposed combination of *Akahira* in view of *Nakane* does not disclose, teach, or suggest at least the feature of an “optical recording medium comprising a substrate, a light transmission layer, and a plurality of recording layers laminated via at least intermediate layers and disposed between the light transmission layer and the substrate, the recording layers constituted so that a *laser beam* is

*projected onto the plurality of recording layers via the light transmission layer, at least one of the recording layers other than a recording layer farthest from the light transmission layer among the plurality of recording layers ...”* as recited in claim 17 (emphasis added) since *Nakane* does not cure the above-described deficiency of *Akahira*. Therefore, a *prima facie* case establishing an obviousness rejection by the proposed combinations of *Akahira* in view of *Nakane* has not been made. Thus, claim 17 is not obvious under proposed combination of *Akahira* in view of *Nakane* and the rejection should be withdrawn.

c. Dependent Claims

Because independent claim 17 is allowable over the cited art of record, dependent claims 18-22 and 31 (which depend from independent claim 17) are allowable as a matter of law for at least the reason that the dependent claims 18-22 and 31 contain all features/elements of independent claim 17. Accordingly, the rejection to these claims should be withdrawn.

5. Rejections Under 35 U.S.C. § 103(a)

In the Office Action, at paragraphs 14 and 15, claims 1-3, 6-8, 11-13, 17-25, and 30-31 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Suzuki et al.* (U.S. Patent 6,033,752), hereinafter *Suzuki*; and, in addition, over *Suzuki* in view of *Shuy*. It is well-established at law that, for a proper rejection of a claim under 35 U.S.C. § 103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements and/or features of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

a. Claims 1-3, 6-8, 11-13, and 30

Applicants respectfully traverse the rejection of claims 1-3, 6-8, 11-13, and 30. However, to advance prosecution of the present application, claims 1-3, 6-8, 11-13, and 30 are canceled without prejudice, waiver, or disclaimer, and therefore, the rejection to these claims are rendered moot. Applicants take this action merely to reduce the number of disputed issues and to

facilitate early allowance and issuance of other claims in the present application, and not in response to the traversed rejection of the claims 1-3, 6-8, 11-13, and 30, with which the Applicants disagree with. Applicants reserve the right to pursue the subject matter of these canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate any of the canceled subject matter to the public.

b. Independent Claim 17

Independent claim 17, as amended, is allowable for at least the reason that *Suzuki*, or the proposed combination of *Suzuki* in view of *Shuy*, does not disclose, teach, or suggest at least the feature of an “optical recording medium comprising a substrate, a light transmission layer, and a plurality of recording layers laminated via at least intermediate layers and disposed between the light transmission layer and the substrate, the recording layers constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer, *at least one of the recording layers other than a recording layer farthest from the light transmission layer* among the plurality of recording layers ...” as recited in claim 17 (emphasis added).

*Suzuki* is initially directed to an optical recording medium embodiment having a single recording layer that is “constructed of a substrate 2 onto which is layered sequentially a first recording layer 3, a second recording layer 4, and a protective layer 5” (column 4, lines 41-44, see also Figures 1 and 3). “The second recording layer 4 is constructed of a material which will, upon mixing or reaction with the first recording layer 3, form an alloy with a low reflectance” (column 6, lines 59-61). That is, at most, the above-described *Suzuki* first and second recording layers are a single mixing type recording layer. Thus, this initial *Suzuki* optical recording medium embodiment corresponds to the Applicants’ disclosed recording layer 20 with films 23a and 23b. Therefore, there are no plurality of recording layers in *Suzuki* laminated via at least intermediate layers and with one of the recording layers being other than the recording layer farthest from the light transmission layer in this initial, above-described embodiment of *Suzuki*.

*Suzuki* later discloses “the construction of a double sided optical recording medium 12 comprising 2 halves, where each half is comprised of a substrate 2, a first recording layer 3, a second recording layer 4 and a protective layer 5, and where the two halves are then

fixed together with the two protective layers 5 facing one another (ie, the side of the second recording layers 4) using an adhesive layer 8. The construction of the adhesive layer 8 is as described for the adhesive layer 6 in FIG. 3" (column 9, lines 31-39).

However, since the disclosed *Suzuki* multilayers 5 are separated by the adhesive layer, the combination of the two disclosed *Suzuki* layers cannot be properly construed, based on the disclosure of *Suzuki*, to be a plurality of recording layers laminated via at least intermediate layers and constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer as recited in claim 17.

The Office Action at page 8 alleges that "it would have been obvious to one skilled in the art to modify the cited example by providing them with an interlayer to increase their stability and the speed of reaction to be controlled as discussed in column 10 resulting in a medium with two identified recording layers. Further it would have been obvious to one skilled in the art to modify the resultant media by providing protective layer and adhering the recording medium with four identified recording layers having thickness of 5-50 nm with two of those recording layers having a composition bounded by the recitation of the claims." Applicants respectfully traverse this conclusion. If the *Suzuki* recording layer 3 and the *Suzuki* recording layer 4 are separated to the extent as proposed by the Office Action, the mixing of the *Suzuki* recording layers 3 and 4 upon irradiation by a laser beam would not occur as required for operation of the *Suzuki* recording layer. Applicants respectfully refer the Examiner to MPEP § 2143.02, entitled "THE PROPOSED MODIFICATIONS CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE." MPEP § 2143.02 states that "if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." Because the principle of operation of *Suzuki* would be changed if modified as proposed (such that mixing between recording layers would no longer occur), a *prima facie* case of obviousness cannot be established. Accordingly, under the above-described scenario wherein *Suzuki* is modified as proposed by the Office Action, a *prima facie* case establishing an obviousness rejection under *Suzuki* alone has not been made. Thus, claim 17 is not obvious under *Suzuki* and the rejection should be withdrawn for at least this reason alone.

As noted above, *Shuy* only discloses that “the optical reflecting contrast produced by the presence of the semi-transparent reflective area 35 leads to signal modulation within the full visible-light range from at least one of the following effects: (1) As a result of the alloy/compound effect, the semi-transparent reflective area 35 changes the optical constants (n & k) in the area thus altering the overall reflectivity; (2) The presence of the semi-transparent reflective area 35 reduces the effective thickness of the transparent layer 30 and alters the respective optical-path lengths thereby shifting constructive or destructive interference; and (3) Due to the alloy/compound effect, the semi-transparent reflective area 35 changes the polarization angle thus altering the intensity read by the polarization optics” (paragraph 0028). There are no plurality of recording layers in *Shuy* with one of the recording layers being other than the recording layer farthest from the light transmission layer.

However, a proper analysis of the art should consider the proposed art in combination, not separately. Here, if *Suzuki* is modified by a recording medium layer of *Shuy*, there still is no plurality of recording layers with one of the recording layers being other than the recording layer farthest from the light transmission layer and constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer since *Shuy* does not cure the above-described deficiency of *Suzuki*. That is, the proposed combination of *Suzuki* in view of *Shuy* does not disclose, teach, or suggest at least the feature of an “optical recording medium comprising a substrate, a light transmission layer, and a plurality of recording layers laminated via at least intermediate layers and disposed between the light transmission layer and the substrate, the recording layers constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer, at least one of the recording layers other than a recording layer farthest from the light transmission layer among the plurality of recording layers ...” as recited in claim 17 (emphasis added). Therefore, a *prima facie* case establishing an obviousness rejection by the proposed combinations of *Suzuki* in view of *Shuy* has not been made. Thus, claim 17 is not obvious under proposed combination of *Suzuki* in view of *Shuy* and the rejection should be withdrawn.

c. Dependent Claims

Because independent claim 17 is allowable over the cited art of record, dependent claims 18-22 and 31 (which depend from independent claim 17) are allowable as a matter of law for at least the reason that the dependent claims 18-22 and 31 contain all features/elements of independent claim 17. Accordingly, the rejection to these claims should be withdrawn.

6. Rejections Under 35 U.S.C. § 103(a)

In the Office Action, at paragraph 16, claims 1-27 and 30-31 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Suzuki* in view of *Nee* (U.S. Patent Publication 2004/0018334), hereinafter *Nee*, and *Nishida et al.* (U.S. Patent No. 5,871,881), hereinafter *Nishida*. In addition, at paragraph 17, 1-31 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Suzuki* in view of *Nee* and *Nishida* and further in view of *Shuy*. It is well-established at law that, for a proper rejection of a claim under 35 U.S.C. § 103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements and/or features of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

a. Claims 1-16, 28, and 30

Applicants respectfully traverse the rejection of claims 1-16, 28, and 30. However, to advance prosecution of the present application, claims 1-16, 28, and 30 are canceled without prejudice, waiver, or disclaimer, and therefore, the rejection to these claims are rendered moot. Applicants take this action merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application, and not in response to the traversed rejection of the claims 1-16, 28, and 30, with which the Applicants disagree with. Applicants reserve the right to pursue the subject matter of these canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate any of the canceled subject matter to the public.

b. Independent Claim 17

Independent claim 17, as amended, is allowable for at least the reason that the proposed combination of *Suzuki*, *Nee* and *Nishida*, and/or *Shuy*, does not disclose, teach, or suggest at least the feature of an “optical recording medium comprising a substrate, a light transmission layer, and a plurality of recording layers laminated via at least intermediate layers and disposed between the light transmission layer and the substrate, the recording layers constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer, *at least one of the recording layers other than a recording layer farthest from the light transmission layer* among the plurality of recording layers ...” as recited in claim 17 (emphasis added).

As noted above, *Suzuki* is initially directed to an optical recording medium embodiment having a single recording layer that is “constructed of a substrate 2 onto which is layered sequentially a first recording layer 3, a second recording layer 4, and a protective layer 5” (column 4, lines 41-44, see also Figures 1 and 3). “The second recording layer 4 is constructed of a material which will, upon mixing or reaction with the first recording layer 3, form an alloy with a low reflectance” (column 6, lines 59-61). That is, at most, the above-described *Suzuki* first and second recording layers are a single mixing type recording layer. Thus, this initial *Suzuki* optical recording medium embodiment corresponds to the Applicants’ disclosed recording layer 20 with films 23a and 23b. Therefore, there are no plurality of recording layers in *Suzuki* laminated via at least intermediate layers and with one of the recording layers being other than the recording layer farthest from the light transmission layer in this initial, above-described embodiment of *Suzuki*.

*Suzuki* later discloses “the construction of a double sided optical recording medium 12 comprising 2 halves, where each half is comprised of a substrate 2, a first recording layer 3, a second recording layer 4 and a protective layer 5, and where the two halves are then fixed together with the two protective layers 5 facing one another (ie, the side of the second recording layers 4) using an adhesive layer 8. The construction of the adhesive layer 8 is as described for the adhesive layer 6 in FIG. 3” (column 9, lines 31-39).

However, since the disclosed *Suzuki* multilayers 5 are separated by the adhesive layer, the combination of the two disclosed *Suzuki* layers cannot be properly construed, based on the disclosure of *Suzuki*, to be a plurality of recording layers laminated via at least intermediate layers and constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer as recited in claim 17.

*Nee* at Figure 3 discloses an optical storage medium 212 with a “partially reflective thin film layer or coating 216 on a first data pit pattern 215 ... and a highly reflective thin film layer or coating 220 on a second data pit pattern 219” (paragraph 0045). *Nee* at Figure 4 discloses an optical storage medium 312 with a “partially reflective thin film layer or coating 316 or layer ‘zero’ on a first data bit pattern 315 ... another partially reflective thin film layer or coating 320 or layer ‘one’ on a second data pit pattern 319 ... and a highly reflective thin film layer coating 324 on layer ‘two’ on a third pit pattern 323 (paragraph 0046). However the above-described layers are apparently not recording layers, but rather, reflective or partially reflective layers deposited on pit patterns. *Nee* discloses that “the disc is unique in that one of the alloys presented below is deposited upon information pits and lands and is used as the highly reflective film” (paragraph 0043). Thus, these information pits and lands are formed prior to deposit of the above-described layers. Accordingly, the above-described layers are not “recording layers” operable to record data, but are apparently only reflective layers or partially reflective layers. Therefore, there are no plurality of recording layers in *Nee* laminated via at least intermediate layers and with one of the recording layers being other than the recording layer farthest from the light transmission layer.

*Nishida* discloses “an ultraviolet cured resin layer 40  $\mu\text{m}$  thick 9 wherein information is formed as *optical embossed pits* by photo polymerization for transferring optical embossed pits through a stamper” (column 11, lines 36-39, emphasis added). Here, there is no recording layer in *Nishida*, but rather, preformed information layers formed by stamping embossed pits. Similarly, all information layers disclosed by *Nishida* are formed by stamping.

As noted above, *Shuy* only discloses that “the optical reflecting contrast produced by the presence of the semi-transparent reflective area 35 leads to signal modulation within the full visible-light range from at least one of the following effects: (1) As a result of the alloy/compound effect, the semi-transparent reflective area 35 changes the optical constants (n &

k) in the area thus altering the overall reflectivity; (2) The presence of the semi-transparent reflective area 35 reduces the effective thickness of the transparent layer 30 and alters the respective optical-path lengths thereby shifting constructive or destructive interference; and (3) Due to the alloy/compound effect, the semi-transparent reflective area 35 changes the polarization angle thus altering the intensity read by the polarization optics" (paragraph 0028). There are no plurality of recording layers in *Shuy* with one of the recording layers being other than the recording layer farthest from the light transmission layer.

However, a proper analysis of the art should consider the proposed art in combination, not separately. Here, if *Suzuki* is modified by a recording medium layer of *Nee*, *Nishida*, and/or *Shuy*, there still is no plurality of recording layers with one of the recording layers being other than the recording layer farthest from the light transmission layer and constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer since *Nee*, *Nishida*, and/or *Shuy* do not cure the above-described deficiency of *Suzuki*. That is, the proposed combination of *Suzuki* in view of *Nee*, *Nishida*, and/or *Shuy* does not disclose, teach, or suggest at least the feature of an "optical recording medium comprising a substrate, a light transmission layer, and a plurality of recording layers laminated via at least intermediate layers and disposed between the light transmission layer and the substrate, the recording layers constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer, *at least one of the recording layers other than a recording layer farthest from the light transmission layer* among the plurality of recording layers ..." as recited in claim 17 (emphasis added). Therefore, a *prima facie* case establishing an obviousness rejection by the proposed combinations of *Suzuki* in view of *Nee*, *Nishida*, and/or *Shuy* has not been made. Thus, claim 17 is not obvious under proposed combination of *Suzuki* in view of *Nee*, *Nishida*, and/or *Shuy* and the rejection should be withdrawn.

c. Dependent Claims

Because independent claim 17 is allowable over the cited art of record, dependent claims 18-22, 29 and 31 (which depend from independent claim 17) are allowable as a matter of law for at least the reason that the dependent claims 18-22, 29, and 31 contain all

features/elements of independent claim 17. Accordingly, the rejection to these claims should be withdrawn.

7. Rejections Under 35 U.S.C. § 103(a)

In the Office Action, at paragraph 18, claims 1-3, 6-8, 11-13, 17-25, and 30-31 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Suzuki* in view of *Takahashi et al.* (U.S. Patent 4,405,706), hereinafter *Takahashi*. At paragraph 19, claims 1-27 and 30-31 (and at paragraph 20 claims 1-31) stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Suzuki* in view of *Takahashi* and further in view of *Nee* and *Nishida*. It is well-established at law that, for a proper rejection of a claim under 35 U.S.C. § 103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements and/or features of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

a. Claims 1-16, 28, and 30

Applicants respectfully traverse the rejection of claims 1-16, 28, and 30. However, to advance prosecution of the present application, claims 1-16, 28, and 30 are canceled without prejudice, waiver, or disclaimer, and therefore, the rejection to these claims are rendered moot. Applicants take this action merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application, and not in response to the traversed rejection of the claims 1-16, 28, and 30, with which the Applicants disagree with. Applicants reserve the right to pursue the subject matter of these canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate any of the canceled subject matter to the public.

b. Independent Claim 17

Independent claim 17, as amended, is allowable for at least the reason that the proposed combination of *Suzuki*, *Takahashi*, *Nee*, and *Nishida* does not disclose, teach, or

suggest at least the feature of an “optical recording medium comprising a substrate, a light transmission layer, and a plurality of recording layers laminated via at least intermediate layers and disposed between the light transmission layer and the substrate, the recording layers constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer, *at least one of the recording layers other than a recording layer farthest from the light transmission layer* among the plurality of recording layers ...” as recited in claim 17 (emphasis added).

As noted above, *Suzuki* is initially directed to an optical recording medium embodiment having a *single* recording layer that is “constructed of a substrate 2 onto which is layered sequentially a first recording layer 3, a second recording layer 4, and a protective layer 5” (column 4, lines 41-44, see also Figures 1 and 3). “The second recording layer 4 is constructed of a material which will, upon mixing or reaction with the first recording layer 3, form an alloy with a low reflectance” (column 6, lines 59-61). That is, at most, the above-described *Suzuki* first and second recording layers are a single mixing type recording layer. Thus, this initial *Suzuki* optical recording medium embodiment corresponds to the Applicants’ disclosed recording layer 20 with films 23a and 23b. Therefore, there are no plurality of recording layers in *Suzuki* laminated via at least intermediate layers and with one of the recording layers being other than the recording layer farthest from the light transmission layer in this initial, above-described embodiment of *Suzuki*.

*Suzuki* later discloses “the construction of a double sided optical recording medium 12 comprising 2 halves, where each half is comprised of a substrate 2, a first recording layer 3, a second recording layer 4 and a protective layer 5, and where the two halves are then fixed together with the two protective layers 5 facing one another (ie, the side of the second recording layers 4) using an adhesive layer 8. The construction of the adhesive layer 8 is as described for the adhesive layer 6 in FIG. 3” (column 9, lines 31-39).

However, since the disclosed *Suzuki* multilayers 5 are separated by the adhesive layer, the combination of the two disclosed *Suzuki* layers cannot be properly construed, based on the disclosure of *Suzuki*, to be a plurality of recording layers laminated via at least intermediate

layers and constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer as recited in claim 17.

*Takahashi* discloses at most “an optical information recording medium ... comprised of a plastic substrate made of acrylic resin, an undercoating comprised at least one of polyvinyl pyrrolidone ad polyvinyl formal on the substrate” (Abstract). There is no disclosure in *Takahashi* of a plurality of recording layers. Thus, *Takahashi* fails to disclose, teach, or suggest every element of the Applicants’ claimed invention.

*Nee* at Figure 3 discloses an optical storage medium 212 with a “partially reflective thin film layer or coating 216 on a first data pit pattern 215 ... and a highly reflective thin film layer or coating 220 on a second data pit pattern 219” (paragraph 0045). *Nee* at Figure 4 discloses an optical storage medium 312 with a “partially reflective thin film layer or coating 316 or layer ‘zero’ on a first data bit pattern 315 ... another partially reflective thin film layer or coating 320 or layer ‘one’ on a second data pit pattern 319 ... and a highly reflective thin film layer coating 324 on layer ‘two’ on a third pit pattern 323 (paragraph 0046). However the above-described layers are apparently not recording layers, but rather, reflective or partially reflective layers deposited on pit patterns. *Nee* discloses that “the disc is unique in that one of the alloys presented below is deposited upon information pits and lands and is used as the highly reflective film” (paragraph 0043). Thus, these information pits and lands are formed prior to deposit of the above-described layers. Accordingly, the above-described layers are not “recording layers” operable to record data, but are apparently only reflective layers or partially reflective layers. Therefore, there are no plurality of recording layers in *Nee* laminated via at least intermediate layers and with one of the recording layers being other than the recording layer farthest from the light transmission layer.

*Nishida* discloses “an ultraviolet cured resin layer 40  $\mu\text{m}$  thick 9 wherein information is formed as *optical embossed pits* by photo polymerization for transferring optical embossed pits through a stamper” (column 11, lines 36-39, emphasis added). Here, there is no recording layer in *Nishida*, but rather, preformed information layers formed by stamping embossed pits. Similarly, all information layers disclosed by *Nishida* are formed by stamping.

However, a proper analysis of the art should consider the proposed art in combination, not separately. Here, if *Suzuki* is modified by a recording medium layer of

*Takahashi, Nee, and/or Nishida*, there still is no plurality of recording layers with one of the recording layers being other than the recording layer farthest from the light transmission layer and constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer since *Takahashi, Nee, and/or Nishida* do not cure the above-described deficiency of *Suzuki*. That is, the proposed combination of *Suzuki* in view of *Takahashi, Nee, and/or Nishida* does not disclose, teach, or suggest at least the feature of an “optical recording medium comprising a substrate, a light transmission layer, and a plurality of recording layers laminated via at least intermediate layers and disposed between the light transmission layer and the substrate, the recording layers constituted so that a *laser beam is projected onto the plurality of recording layers* via the light transmission layer, *at least one of the recording layers other than a recording layer farthest from the light transmission layer* among the plurality of recording layers ...” as recited in claim 17 (emphasis added). Therefore, a *prima facie* case establishing an obviousness rejection by the proposed combinations of *Suzuki* in view of *Takahashi, Nee, and/or Nishida* has not been made. Thus, claim 17 is not obvious under proposed combination of *Suzuki* in view of *Takahashi, Nee, and/or Nishida* and the rejection should be withdrawn.

c. Dependent Claims

Because independent claim 17 is allowable over the cited art of record, dependent claims 18-22, 29 and 31 (which depend from independent claim 17) are allowable as a matter of law for at least the reason that the dependent claims 18-22, 29, and 31 contain all features/elements of independent claim 17. Accordingly, the rejection to these claims should be withdrawn.

8. Obviousness-Type Double Patenting Rejections

In the Office Action at paragraph 22, the Examiner has provisionally rejected claims 1-31 under the judicially created doctrine of obviousness-type double patenting as being obvious over copending U.S. Patent Application No. 10/818,324 filed by *Oyake et al.*

Applicants respectfully traverse the rejection of claims 1-31. However, to advance prosecution of the present application, claims 1-16, 28, and 30 are canceled without prejudice,

waiver, or disclaimer, and therefore, the rejection to these claims are rendered moot. Applicants take this action merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application, and not in response to the traversed rejection of the claims 1-16, 28, and 30, with which the Applicants disagree with. Applicants reserve the right to pursue the subject matter of these canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate any of the canceled subject matter to the public.

As noted by the Examiner, a terminal disclaimer may be used to overcome a provisional rejection based on a non-statutory obviousness-type double patenting. The Applicants will consider filing a terminal disclaimer in the present application if one or both of these co-pending applications issue before the present application, and if the present application is still pending at that point. Otherwise, it is respectfully submitted that since none of these other co-pending applications have yet issued, the present application can be passed into allowance and issued without the filing of a terminal disclaimer. A terminal disclaimer may then be filed, if appropriate, in one or more of these other co-pending applications, based on the issuance of the present application.

Accordingly, the Applicants respectfully request that the provisional obviousness-type double patenting rejection be withdrawn, and that the pending claims 17-22, 29 and 31 be allowed. The Examiner is requested to telephone the undersigned attorney if any of the co-pending applications have issued prior to the present application so that the Applicants may file a terminal disclaimer if appropriate, or respond to the properness of a rejection of the claims of the pending application with respect to any issued claims of the co-pending applications, to expedite prosecution of the present application. Applicants are prepared to file a terminal disclaimer should any one of the co-pending applications issue as a patent and if the subject matter of the claims of such issuing patents is properly subject to a double patenting rejection.

9. Conclusion

In light of the above amendments and remarks, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that all pending claims 17-27, 29 and 31 are allowable. Applicants, therefore, respectfully

request that the Examiner reconsider this application and timely allow all pending claims. The Examiner is encouraged to contact Mr. Armentrout by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any informalities in the claims, he is further encouraged to contact Mr. Armentrout by telephone to expediently correct such informalities.

Respectfully submitted,  
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